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Our File No. ILL02-023-DIV-US

Jonathan M. Blanchard, Ph.D.

Name

Jonathan M. Blanchard  
Signature

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Chang Liu, et al.

Serial No. 10/670,585

Filing Date: September 25, 2003

For SCANNING PROBE MICROSCOPY PROBE AND  
METHOD FOR SCANNING PROBE CONTACT  
PRINTING

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)  
) Examiner James J. Leybourne  
)  
) Group Art Unit No. 2881  
)

**TRANSMITTAL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Information Disclosure Statement

Form PTO 1449

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The Commissioner is hereby authorized to charge any fees associated with this communication not covered by check or credit card payment or credit any overpayment to Deposit Account No. 50-3123. A duplicate copy of this sheet is attached.

Respectfully submitted,

Jonathan M. Blanchard  
Jonathan M. Blanchard, Ph.D.,  
Registration No. 48,927

Evan Law Group LLC  
566 West Adams  
Suite 350  
Chicago, Illinois 60661  
(312) 876-1400

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**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
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Dear Sir:

In accordance with the provisions of 37 C.F.R. § 1.56, Applicants request that citation and examination of the references identified on the attached PTO-1449 form, be made during the course of examination of the above-referenced application for United States Letters Patent.

This application is a divisional of application of Serial No. 10/440,022. Accordingly, all information previously submitted to and/or cited by the Examiner is not provided, according to 37 C.F.R. § 1.98(d).

Since this Information Disclosure Statement is being submitted after the mailing of the first Office Action, payment of the fee set forth in 37C.F.R. §1.117(p) accompanies this submission.

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Respectfully submitted,

Blanchard  
Jonathan M. Blanchard, Ph.D.  
Registration No. 48,927

Evan Law Group LLC  
566 West Adams  
Suite 350  
Chicago, Illinois 60661  
(312) 876-1400



Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL02-023-DIV-US	Serial No. 10/670,585
<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)	Applicant: Chang Liu, et al.	
	Filing Date: September 25, 2003	Group: 2881

Examiner Initial*	OTHER ITEMS - NON PATENT LITERATURE DOCUMENTS	
	Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages	
	A1	Brittain, C., et al., "Soft Lithography and Microfabrication", 1998, Physics World, 11, 31-36.
	A2	Kumar, A., et al., "Patterning Self Assembled Monolayers: Applications in Material Science", 1994, Langmuir, 10, pp. 1498-1511.
	A3	Lopez, G.P., et al., "Fabrication and Imaging of Two-Dimensional Patterns of Proteins Adsorbed on Self-Assembled Monolayers by Scanning Electron Microscopy", 1993, Journal of American Chemical Society, 115, pp. 10774-10781.
	A4	Branch, D.W., et al., "Microstamp Patterns of Biomolecules for High-Resolution Neuronal Networks", 1998, Medical and Biological Engineering and Computing, vol. 36, pp. 135-141.
	A5	Marzolin, C., et al., "Patterning of a Polysiloxane Precursor to Silicate Glasses by Microcontact Printing", 1998, Thin Solid Films, 315, pp. 9-12.
	A6	Xia, Y. et al., "Soft Lithography", 1998, Annual Review of Material Science, 28, pp. 153-84.
	A7	K. Ryu, et al., "Precision Patterning of PDMS Thin Films: A New Fabrication Method and Its Applications", Sixth International Symposium on Micro Total Analysis System (mTAS), Nara, Japan, 3-7 November 2002
	A8	Libioulle, L., et al., "Contact-Inking for Microcontact Printing of Alkanethiols on Gold", 1999, Langmuir, 15, pp. 300-304.
	A9	Encyclopedia of Chemical Technology, Volume 14, Kirk-Othmer, 1995, pp. 677-709.
	A10	Khoo, M., et al., "Micro Magnetic Silicone Elastomer Membrane Actuator", 2001, Sensors and Actuators, 89(3).
	A11	Jo, B., et al., "Three-Dimensional Micro-Channel Fabrication in Polydimethylsiloxane (PDMS) Elastomer", 2000, J. MEMS, vol. 9, pp.76-81.
	A12	Hertel, T., et al., "Manipulation of Individual Carbon Nanotubes and Their Interaction with Surfaces", 1998, Journal of Physical Chemistry B, Vol. 102, pp. 910-915.
	A13	Snow, E., et al., "Nanofabrication with Proximal Probes", 1997, Proceedings of the IEEE, vol. 85, pp. 601-611.
	A14	Wilson, D.L., et al., "Surface Organization and Nanopatterning of Collagen by Dip-Pen Nanolithography", 2001, PNAS, vol. 98, pp. 13660-13664.
	A15	Belaubre, P., et al., "Fabrication of Biological Microarrays Using Microcantilevers", 2003, Applied Physics Letters, vol. 82, pp. 3122-3124.
	A16	Lutwyche, M., et al., "5x5 2D AFM Cantilever Arrays A First Step Towards A Terabit Storage Device", 1999, Sensors and Actuators A: Physical, vol. 73, pp. 89-94.
	A17	Vettiger, P., et al., "Ultrahigh Density, High-data-rate NEMS-based AFM Storage System", 1999, Microelectronic Engineering, vol. 46, pp. 101-104.
	A18	Cooper, E.B., et al., "Terabit-Per-Square-Inch Data Storage With the Atomic Force Microscope", 1999, Applied Physics Letters, vol. 75, pp. 3566-3568.
	A19	Piner, R.D., et al., "Dip-Pen' Nanolithography", 1999, Science, vol. 283, pp. 661-663.

Examiner	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

A20	Wu, G., et al., "Origin of Nanomechanical Cantilever Motion Generated from Biomolecular Interactions", 2001, Proceedings of the National Academy of Sciences, vol. 98, pp. 1560-1564.
A21	Zhang, M., et al., "A MEMS Nanoplotter with High-Density Parallel Dip-Pen Nanolithography Probe Arrays", 2002, Journal of Nanotechnology, vol. 13, pp. 212-217.
A22	Chow, E.M., et al., "Characterization of a Two-Dimensional Cantilever Array with Through-Wafer Electrical Interconnects", 2002, Applied Physics Letters, vol. 80, pp. 664-666.
A23	Bullen, D., et al., "Micromachined Arrayed Dip Pen Nanolithography (DPN) Probes for Sub-100 nm Direct Chemistry Patterning", presented at 16 <sup>th</sup> International Conference on Micro Electro Mechanical Systems (MEMS), Kyoto, Japan, 2003.
A24	Minne, S.C., et al., "Parallel Atomic Force Microscopy Using Cantilevers with Integrated Piezoresistive Sensors and Integrated Piezoelectric Actuators", 1995, Applied Physics Letters, vol. 67, pp. 391803920.
A25	Liu, C., et al., "Mass-Productible Monolithic Silicon Probes for Scanning Probe Microscopes", 1998, Sensors and Actuators A: Physical, vol. 71, pp.
A26	Petersen, K.E., "Silicon As A Mechanical Material" 1982, Proceedings of the IEEE, vol. 70, pp. 420-457.
A27	Minne, S.C., et al., "Centimeter Scale Atomic Force Microscope Imaging and Lithography", 1998, Applied Physics Letters, vol., 73, pp. 1742-1744.
A28	Bullen, D., et al., "Thermo-Mechanical Optimization of Thermally Actuated Cantilever Beam Array" July 2002, Proc. SPIE Vol. 4700, Smart Structures and Materials 2002: Smart Electronics, MEMS, and Nanotechnology, pp. 288-295; with separate abstract.
A29	Wang, X., et al., "Scanning Probe with Elastomeric (PDMS) Tip for Scanning Probe Microcontact Printing (SP-uCP)", presented at the 12 <sup>th</sup> International Conference on Solid-State Sensors, Actuators and Microsystems, Boston, MA, June 8-12, 2003.
A30	Wang, X., et al., "Scanning Probe Contact Printing", 2003, Langmuir, Vol. 19, pp. 8951-8955.